

WHAT IS CLAIMED IS:

1. A device for testing continuity of electrical paths through a connector of a circuit assembly, comprising:
 - a package containing incomplete or no mission circuitry for the circuit assembly;
 - a plurality of contacts on the package for mating to a plurality of contacts of the connector;
 - a test sensor port, integrated with the package; and
 - a plurality of passive circuit components integrated with the package, ones of which are coupled in parallel between ones of the plurality of contacts on the package and the test sensor port.
2. The device of claim 1, further comprising:
 - a second plurality of contacts on the package for mating to a second plurality of contacts of the connector;
 - a second test sensor port, integrated with the package; and
 - a second plurality of passive circuit components integrated with the package, coupled between ones of the second plurality of contacts on the package and the second test sensor port.
3. The device of claim 1, wherein the test sensor port comprises a capacitor plate enclosed within the package.

4. The device of claim 1, wherein the test sensor port comprises an ohmic contact on the package.
5. The device of claim 1, wherein the passive circuit components are capacitors.
6. The device of claim 5, wherein the plurality of capacitors are formed by:
 - a first conductive layer having first sides of the capacitors patterned therein;
 - a second conductive layer having second sides of the capacitors patterned therein; and
 - a dielectric layer separating the first and second conductive layers.
7. The device of claim 5, wherein values of the plurality of capacitors are substantially matched.
8. The device of claim 7, wherein a different number of the plurality of capacitors is coupled to each of the plurality of contacts on the package.
9. The device of claim 5, wherein those of the plurality of capacitors nearest the periphery of the package are sized differently than those of the plurality of capacitors nearest the center of the package.

10. The device of claim 5, wherein each of the plurality of capacitors has a different value.

11. The device of claim 1, further comprising a ground shield for the plurality of passive circuit components.

12. The device of claim 11, wherein the test sensor port comprises an ohmic contact and the ground shield is coupled to the ohmic contact; and wherein the ground shield comprises:

a first ground plane positioned above the plurality of passive circuit components;

a second ground plane positioned below the plurality of passive circuit components; and

a number of conductive vias coupling the first and second ground planes.

13. The device of claim 1, wherein the passive circuit components are resistors.

14. The device of claim 1, wherein the connector is a socket, and wherein the package is configured to mate to the socket.

15. The device of claim 1, wherein the plurality of passive circuit components are enclosed within the package.

16. A device for testing continuity of electrical paths through a connector of a circuit assembly, consisting of:

- a package containing incomplete or no mission circuitry for the circuit assembly;

- a plurality of contacts on the package for mating to a plurality of contacts of the connector;

- a test sensor port, integrated with the package; and

- a plurality of passive circuit components enclosed within the package, ones of which are coupled in parallel between ones of the plurality of contacts on the package and the test sensor port.

17. The device of claim 16, further consisting of a ground shield for the plurality of passive circuit components; wherein the ground shield is coupled to an ohmic contact of the test sensor port.

18. The device of claim 16, further consisting of:

- at least one additional plurality of contacts on the package for mating to at least one additional plurality of contacts of the connector;

- at least one additional test sensor port, integrated with the package;

- and

at least one additional plurality of passive circuit components enclosed within the package, each plurality of which is coupled between one of the additional pluralities of contacts on the package and one of the additional test sensor ports.

19. The device of claim 18, further consisting of at least one ground shield for the pluralities of passive circuit components; wherein each of the at least one ground shield is coupled to an ohmic contact of at least one of the test sensor ports.

20. A device for testing continuity of electrical paths through a connector of a circuit assembly, comprising:

- a package containing incomplete or no mission circuitry for the circuit assembly;

- a plurality of contacts on the package for mating to a plurality of contacts of the connector;

- a plurality of test sensor ports, integrated with the package; and

- a plurality of sets of passive circuit components enclosed within the package, wherein each set of passive circuit components is coupled in parallel between a corresponding set of the plurality of contacts and one of the test sensor ports, and wherein the sets of the plurality of contacts intersect.

21. The device of claim 20, wherein the passive circuit components are capacitors.

22. The device of claim 20, wherein the passive circuit components are substantially matched.

23. A method for testing continuity of electrical paths through a circuit assembly, comprising:

mating a test-facilitating circuit package to a connector of the circuit assembly; the circuit package comprising a plurality of contacts for mating to a plurality of contacts of the connector; the circuit package containing incomplete or no mission circuitry for the circuit assembly, but containing a plurality of passive circuit components coupled in parallel between the package's plurality of contacts and a test sensor port of the circuit package;

stimulating one or more nodes of the circuit assembly;

measuring an electrical characteristic of the circuit package; and

comparing the measured electrical characteristic to at least one threshold to assess continuities of at least two electrical paths through the circuit assembly.

24. The method of claim 21, wherein the electrical characteristic of the test fixture is measured via a capacitive lead-frame assembly.

25. A method for testing continuity of electrical paths through a circuit assembly, comprising:

 mating a test fixture to a connector of the circuit assembly; the test fixture supporting one or more test-facilitating circuit packages; the circuit packages comprising a plurality of contacts for electrically coupling to a plurality of contacts of the connector; the circuit packages containing incomplete or no mission circuitry for the circuit assembly, but containing a plurality of passive circuit components coupled in parallel between the packages' plurality of contacts and test sensor ports of the circuit packages;

 stimulating one or more nodes of the circuit assembly;

 measuring an electrical characteristic of one or more of the circuit packages; and

 comparing the measured electrical characteristic(s) to at least one threshold to assess continuities of at least two electrical paths through the circuit assembly.

26. The method of claim 21, wherein the electrical characteristic of the test fixture is measured via a capacitive lead-frame assembly.